Exploring the Extreme			
2006 Science Revised January 2008			
State Curriculum			
Maryland Science Revised January 2008			
Grade K			
Activity/Lesson	**State**	**Standards**	
Finding the Center of Gravity Using Rulers	MD	SCI.K.1.A.1.a	Describe what can be learned about things by just observing those things carefully and adding information by sometimes doing something to the things and noting what happens.
Finding the Center of Gravity Using Rulers	MD	SCI.K.1.A.1.b	Seek information through reading, observation, exploration, and investigations.
Finding the Center of Gravity Using Rulers	MD	SCI.K.1.A.1.c	Use tools such as thermometers, magnifiers, rulers, or balances to extend their senses and gather data.
Finding the Center of Gravity Using Rulers	MD	SCI.K.1.B.1.b	Develop reasonable explanations for observations made, investigations completed, and information gained by sharing ideas and listening to others' ideas.
Finding the Center of Gravity Using Rulers	MD	SCI.K.1.D.3.a	Explain that a model of something is different from the real thing but can be used to learn something about the real thing.
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Grade 1			
Activity/Lesson	**State**	**Standards**	
Finding the Center of Gravity Using Rulers	MD	SCI.1.1.A.1.a	Describe what can be learned about things by just observing those things carefully and adding information by sometimes doing something to the things and noting what happens.
Finding the Center of Gravity Using Rulers	MD	SCI.1.1.A.1.b	Seek information through reading, observation, exploration, and investigations.
Finding the Center of Gravity Using Rulers	MD	SCI.1.1.A.1.c	Use tools such as thermometers, magnifiers, rulers, or balances to extend their senses and gather data.
Finding the Center of Gravity Using Rulers	MD	SCI.1.1.B.1.b	Develop reasonable explanations for observations made, investigations completed, and information gained by sharing ideas and listening to others' ideas.
Finding the Center of Gravity Using Rulers	MD	SCI.1.1.D.3.a	Explain that a model of something is different from the real thing but can be used to learn something about the real thing.

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Grade 2			
Activity/Lesson	**State**	**Standards**	
Finding the Center of Gravity Using Rulers	MD	SCI.2.1.A.1.a	Describe what can be learned about things by just observing those things carefully and adding information by sometimes doing something to the things and noting what happens.
Finding the Center of Gravity Using Rulers	MD	SCI.2.1.A.1.b	Seek information through reading, observation, exploration, and investigations.
Finding the Center of Gravity Using Rulers	MD	SCI.2.1.A.1.c	Use tools such as thermometers, magnifiers, rulers, or balances to extend their senses and gather data.
Finding the Center of Gravity Using Rulers	MD	SCI.2.1.B.1.b	Develop reasonable explanations for observations made, investigations completed, and information gained by sharing ideas and listening to others' ideas.
Finding the Center of Gravity Using Rulers	MD	SCI.2.1.D.3.a	Explain that a model of something is different from the real thing but can be used to learn something about the real thing.
Exploring the Extreme			
2006 Science Revised January 2008			
State Curriculum			
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Grade 3			
Activity/Lesson	**State**	**Standards**	
Finding the Center of Gravity Using Rulers	MD	SCI.3.1.A.1.b	Select and use appropriate tools hand lens or microscope (magnifiers), centimeter ruler (length), spring scale (weight), balance (mass), Celsius thermometer (temperature), graduated cylinder (liquid volume), and stopwatch (elapsed time) to augment observations of objects, events, and processes.
Finding the Center of Gravity Using Rulers	MD	SCI.3.1.C.1.d	Construct and share reasonable explanations for questions asked.
Finding the Center of Gravity Using Rulers	MD	SCI.3.1.D1.C.a	Explain that a model is a simplified imitation of something and that a model's value lies in suggesting how the thing modeled works.
Finding the Center of Gravity Using Plumb Lines	MD	SCI.3.1.C.1.d	Construct and share reasonable explanations for questions asked.
Finding the Center of Gravity Using Plumb Lines	MD	SCI.3.1.D1.C.a	Explain that a model is a simplified imitation of something and that a model's value lies in suggesting how the thing modeled works.

Changing the Center of Gravity Using Moment Arms	MD	SCI.3.1.A.1.b	Select and use appropriate tools hand lens or microscope (magnifiers), centimeter ruler (length), spring scale (weight), balance (mass), Celsius thermometer (temperature), graduated cylinder (liquid volume), and stopwatch (elapsed time) to augment observations of objects, events, and processes.
Changing the Center of Gravity Using Moment Arms	MD	SCI.3.1.C.1.d	Construct and share reasonable explanations for questions asked.
Changing the Center of Gravity Using Moment Arms	MD	SCI.3.1.D1.C.a	Explain that a model is a simplified imitation of something and that a model's value lies in suggesting how the thing modeled works.
Exploring the Extreme			
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Grade 4			
Activity/Lesson	**State**	**Standards**	
Finding the Center of Gravity Using Rulers	MD	SCI.4.1.A.1.b	Select and use appropriate tools hand lens or microscope (magnifiers), centimeter ruler (length), spring scale (weight), balance (mass), Celsius thermometer (temperature), graduated cylinder (liquid volume), and stopwatch (elapsed time) to augment observations of objects, events, and processes.
Finding the Center of Gravity Using Rulers	MD	SCI.4.1.C.1.d	Construct and share reasonable explanations for questions asked.
Finding the Center of Gravity Using Rulers	MD	SCI.4.1.D1.C.a	Explain that a model is a simplified imitation of something and that a model's value lies in suggesting how the thing modeled works.
Finding the Center of Gravity Using Plumb Lines	MD	SCI.4.1.C.1.d	Construct and share reasonable explanations for questions asked.
Finding the Center of Gravity Using Plumb Lines	MD	SCI.4.1.D1.C.a	Explain that a model is a simplified imitation of something and that a model's value lies in suggesting how the thing modeled works.
Finding the Center of Gravity Using Plumb Lines	MD	SCI.4.1.D1.C.b	Investigate and describe that seeing how a model works after changes are made to it may suggest how the real thing would work if the same were done to it.
Finding the Center of Gravity Using Plumb Lines	MD	SCI.4.5.C.3.e	Investigate and describe how electricity in a wire affects the needle of a compass.

Changing the Center of Gravity Using Moment Arms	MD	SCI.4.1.A.1.b	Select and use appropriate tools hand lens or microscope (magnifiers), centimeter ruler (length), spring scale (weight), balance (mass), Celsius thermometer (temperature), graduated cylinder (liquid volume), and stopwatch (elapsed time) to augment observations of objects, events, and processes.
Changing the Center of Gravity Using Moment Arms	MD	SCI.4.1.C.1.c	Submit work to the critique of others which involves discussing findings, posing questions, and challenging statements to clarify ideas.
Changing the Center of Gravity Using Moment Arms	MD	SCI.4.1.C.1.d	Construct and share reasonable explanations for questions asked.
Changing the Center of Gravity Using Moment Arms	MD	SCI.4.1.D1.C.a	Explain that a model is a simplified imitation of something and that a model's value lies in suggesting how the thing modeled works.
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Maryland Science Revised January 2008			
Grade 5			
Activity/Lesson	**State**	**Standards**	
Jet Propulsion	MD	SCI.5.1.D1.C.a	Explain that a model is a simplified imitation of something and that a model's value lies in suggesting how the thing modeled works.
Vectoring	MD	SCI.5.1.B.1.b	Offer reasons for their findings and consider reasons suggested by others.
Vectoring	MD	SCI.5.1.B.1.c	Review different explanations for the same set of observations and make more observations to resolve the differences.
Vectoring	MD	SCI.5.1.C.1.d	Construct and share reasonable explanations for questions asked.
Vectoring	MD	SCI.5.1.D1.C.a	Explain that a model is a simplified imitation of something and that a model's value lies in suggesting how the thing modeled works.
Center of Gravity, Pitch, Yaw	MD	SCI.5.1.A.1.b	Select and use appropriate tools hand lens or microscope (magnifiers), centimeter ruler (length), spring scale (weight), balance (mass), Celsius thermometer (temperature), graduated cylinder (liquid volume), and stopwatch (elapsed time) to augment observations of objects, events, and processes.
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Grade 6			

Activity/Lesson	State	Standards	
Jet Propulsion	MD	SCI.6.1.D1.C.a	Explain that the kind of model to use and how complex it should be depends on its purpose and that it is possible to have different models used to represent the same thing.
Vectoring	MD	SCI.6.1.A.1.a	Explain that scientists differ greatly in what phenomena they study and how they go about their work.
Vectoring	MD	SCI.6.1.A.1.b	Develop the ability to clarify questions and direct them toward objects and phenomena that can be described, explained, or predicted by scientific investigations.
Vectoring	MD	SCI.6.1.C.1.e	Explain how different models can be used to represent the same thing. What kind of a model to use and how complex it should be depend on its purpose. Choosing a useful model is one of the instances in which intuition and creativity come into play in science, mathematics, and engineering.
Exploring the Extreme			
2006 Science Revised January 2008			
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Grade 7			
Activity/Lesson	**State**	**Standards**	
Vectoring	MD	SCI.7.1.A.1.b	Develop the ability to clarify questions and direct them toward objects and phenomena that can be described, explained, or predicted by scientific investigations.
Vectoring	MD	SCI.7.1.A.1.c	Explain and provide examples that all hypotheses are valuable, even if they turn out not to be true, if they lead to fruitful investigations.
Fuel Efficiency	MD	SCI.7.1.C.1.a	Organize and present data in tables and graphs and identify relationships they reveal.
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Grade 8			
Activity/Lesson	**State**	**Standards**	
Vectoring	MD	SCI.8.1.A.1.b	Develop the ability to clarify questions and direct them toward objects and phenomena that can be described, explained, or predicted by scientific investigations.

Vectoring	MD	SCI.8.1.A.1.c	Explain and provide examples that all hypotheses are valuable, even if they turn out not to be true, if they lead to fruitful investigations.
Fuel Efficiency	MD	SCI.8.1.C.1.a	Organize and present data in tables and graphs and identify relationships they reveal.